

INTERFERENCE DEPENDENT ADC HEADROOM ADJUSTMENT

ABSTRACT

A method, system, and apparatus for adjusting the headroom for a received signal in a radio receiver when the received signal includes a target signal and an interference signal. An amplifier coupled with the received signal outputs an amplified signal, and the amplification level of the amplifier is set by an amplification control signal. An analog-to-digital converter converts the amplified signal to a digital signal. A first digital filter is used to filter the digital signal at a first attenuation factor and produces a first filter output coupled with the amplification control signal. The first filter output is proportional to the magnitude of the interference signal when the interference signal is greater in magnitude than the target signal. A second digital filter is used to filter the digital signal at a second attenuation factor.